REMARKS

Applicant has reviewed his application in light of the Office Action dated September 10, 2008. Claims 15–29 and 32–35 are pending in the application. Applicant has amended claim 15 to address an informality. Further, applicants have added claim 35 to provide the full measure of paten t protection to which applicant deems himself entitled.

Claim Objection

Claim 15 stands objected to as containing an informality. Applicant has amended claim 15 to change one instance of the word "color" to "colors." this amendment should addresses the Examiner's objection.

35 U.S.C. 102(b) Rejection of Claim 15

Claim 15 stands rejected under 35 U.S.C. § 102(b) as being unpatentable in view of U.S. Patent Publication No. 2001/0008428 to Oh (hereinafter "Oh").

Claim 15 recites, inter alia, "a matrix, through which the color video signals pass to control the proportions of three primary colors in matrixed color value signals." The present invention's matrix takes as an input red, green, and blue signals (RGB), and produces corrected red, green, and blue signals (RkGkBk). *See* specification, Fig. 2, elements 1–3 and 26–28. In contrast, Oh's matrix takes in a luminance signal (Y) and red and blue chrominance signals (Cr and Cb), with RGB signals only appearing at the other side. *See* Oh, Fig 2. "Three primary colors" is not a concept that applies to YCbCr signals, as they use only two independent chrominance values to determine where in the spectrum a particular color lies. As a result, Oh's matrix cannot "control the proportions of three primary colors" in the inputted YCbCr signals. Applicant respectfully asserts that Oh does not disclose or suggest a matrix, through which color video signals pass to control the proportions of three primary colors in the matrixed color value signals.

Claim 15 further recites "means for controlling the matrix as a function of color saturation." The Examiner asserts that Oh discloses this element in the discussion of chrominance signals Cb and Cr, as well as the sine and cosine of theta, in paragraph 17. However, Oh does not at any point deal with *saturation*.

The present invention converts chrominance signals to hue and saturation signals as are used in HSV (hue, saturation, and value) formats. This is effectively the same as a change in coordinates — although YCrCb and HSV signals contain the same information, they present that information in different ways. Consider, for instance, a color wheel such as the one diagrammed in Fig. 1 of the present invention, where the colors are strongest at the edge of the wheel, and they fade to white at the center. Hue represents the angular component of polar coordinates, showing the presentation of a basic color. Saturation represents the radial component of polar coordinates, showing the strength of that color. For example, if the hue were red, a high saturation would indicate a very bright red. As the saturation decreases, the red will fade to pink, and then to white.

In contrast, YCrCb comprises Cartesian coordinate system, where explicit values are only given for the two chrominances. These chrominance values can be converted to hue and saturation values, but YCrCb signals do not directly convey saturation information.

In order to get saturation information from an YCrCb signal, one must first convert that signal to HSV or a similar format. The present invention explicitly converts the signals to get the saturation information in element 34. *See* specification, ¶ 21 and Fig. 2. Because YCrCb signals lack explicit saturation values, Oh simply cannot get at the saturation information without a similar conversion. Because Oh never discloses or suggests converting YCrCb signals to produce saturation signals, applicant asserts that it would be impossible for Oh to disclose or suggest controlling the matrix as a function of color saturation.

In light of the above, it is respectfully asserted that Oh does not disclose or suggest all of the elements of claim 15. It is therefore believed that claim 15 is in condition for allowance.

35 U.S.C. 103(a) Rejection of Claims 16-21, 26-29, 33 and 34

Claims 16–21, 26–29, 33, and 34 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Oh in view of U.S. Patent No. 4,962,418 to Kamaga (hereinafter "Kamaga").

Claims 16–21, 26–29, 33 and 34 all depend either directly or indirectly from claim 15, and therefore, they incorporate by reference all the features of claim 15. In view of the above distinctions between Oh and the present invention, and since Kamaga cannot cure the deficiencies of Oh, applicant asserts that Oh and/or Kamaga, taken alone or in combination, do not disclose or suggest all of the elements of claims 16–21, 26–29, 33, and 34. Claims 16–21, 26–29, 33 and 34 thus patentably distinguish over the art of record, and applicant requests withdrawal of the of the 35 U.S.C. 103(a) rejection of these claims.

35 U.S.C. 103(a) Rejection of Claim 32

Claim 32 stands rejected under 35 U.S.C. 103(a) as being unpatentable over Oh in view of Kamaga and further in view of U.S. Patent No. 6,433,898 to Bestmann (hereinafter "Bestmann").

Claim 32 depends from claim 15 and thus incorporates by reference all of the features of its parent claim. In view of the above distinctions between Oh and the present invention, and because Kamaga and/or Bestmann cannot cure the deficiencies of Oh, it is respectfully asserted that Oh, Kamaga, and/or Bestmann, taken alone or in any combination, do not disclose or suggest all of the elements of claim 32. It is therefore believed that claim 32 is in condition for allowance.

35 U.S.C. 103(a) Rejection of Claims 22-25

Claims 22–25 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Oh in view of Kamaga and in further view of U.S. Patent No. 6,477,271 to Cooper et al. (hereinafter "Cooper").

Claims 22–25 depend directly or indirectly from claim 15 and therefore incorporate by reference all of the features of their parent claims. In view of the above distinctions between Oh and the present invention, and because Kamaga and/or Cooper cannot cure the deficiencies of Oh, it is respectfully asserted that Oh, Kamaga, and/or Cooper, taken alone or in any combination, do not disclose or suggest all of the elements of claims 22–25. It is therefore believed that claims 22–25 are in condition for allowance.

New Claim 35

Applicants have introduced new claim 35, depending from claim 15. Claim 35 includes the further feature of three limiters configured to limit each color signal to a maximum value governed by a quantization." This new claim finds ample support in the present specification at paragraph 19. The Oh, Kamaga, Bestmann, and Cooper references, whether taken alone or in any combination, fail to disclose or suggest such limiters. Therefore, claim 35 contains allowable subject matter beyond the features discussed above.

Conclusion

In view of the foregoing amendments to the claims and the accompany remarks, applicants solicits entry of this amendment and allowance of the claims. If the Examiner cannot take such action, applicant's attorney invites the Examiner to contact him at (609) 734-6820, to arrange for a telephonic interview.

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No fees are believed due with regard to this Amendment. Please charge and fee or credit any overpayment to Deposit Account No. **07-0832.**

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